3.15 TRANSPORTATION AND TRAFFIC

3.15.1 Definitions

Roadway Classification

Jurisdictional cities, counties, or transportation agencies commonly classify roadways by their function. The proposed project is located entirely within unincorporated Sonoma County or regional parks subject to the County's sole authority. Sonoma County classifies roadways in the General Plan by the following definitions (County of Sonoma 2006):

- **Highway/Freeway.** Through-highways with limited access points and separated directional travel intended to carry large volumes of interurban, regional, and interstate traffic.
- **Principal Arterial.** Through-highways principally designed to carry large volumes of interurban traffic. May accommodate regional travel in rural areas or local traffic in large urban areas.
- **Minor Arterial.** A through-road that supports interurban traffic. Carries a smaller volume of traffic or a higher proportion of local traffic over shorter distances than a primary arterial.
- **Major Collector.** Roadway that serves internal traffic within a community and conveys traffic to the arterial system.
- **Minor Collector.** Similar in function to a major collector, but occurs in rural areas with low traffic volumes and longer trip durations.
- **Local Road.** Roadway that provides direct access to adjacent land, such as homes, businesses, and other destinations.

The Town of Windsor maintains some roadways that provide regional access to the proposed project. The Town of Windsor General Plan (2015) classifies roadways using slightly different terminology than Sonoma County. The Town of Windsor uses the term "crosstown streets" for roadways that function like arterial roadways, which link neighborhoods, provide movement across a town, provide connection to freeways, and are designed to carry relatively high traffic flows (Town of Windsor 1996).

Bikeway and Pedestrian Path Classification

The County of Sonoma's Bicycle and Pedestrian Plan defines bicycle routes in the following classes (County of Sonoma 2010):

- **Class I Bikeway (Multi-Use Path).** Multi-use paths are all-weather surface rights-of-way for exclusive use by bicyclists, pedestrians, and those using non-motorized modes of travel. These facilities are physically separated from vehicular traffic and can be constructed in a roadway right-of-way or an exclusive right-of-way. Multi-use paths provide safety, connectivity, and higher quality recreational

opportunities compared to facilities that share the right-of-way with motor vehicles.

- **Class II Bikeway (Bike Lane).** Class II Bikeways, also called bike lanes, are striped and stenciled lanes intended for one-way bicycle travel on either side of a street or highway. Class II Bikeways have specific width and geometric standards.
- **Class III Bikeway (Bike Route).** Bike routes are lanes of travel shared with motor vehicles that provide connections to Class I and II bikeways through signage and design.
- **Bicycle Boulevards.** Bicycle boulevards are streets with traffic-calming elements that improve bicycle safety and travel.

Traffic Volume

Average Daily Traffic

Traffic volume for roadway segments and intersections is measured by counting vehicle trips through a single point and averaging the daily values collected over a few or many days. Traffic volume is typically expressed by average daily traffic (ADT) for a single day or longer period depending on the availability of traffic count data. Caltrans collects traffic count data for State highways based on annual ADT (AADT).

Volume to Capacity Ratio

The volume of a roadway is defined as how many vehicles pass through a given point during a defined period of time, and the capacity of a roadway is defined as the maximum rate at which vehicles can pass through a given point during a defined period of time. Level of service (LOS) is estimated based on a road's traffic volume to capacity (v/c) ratio and the average delay experienced by vehicles at an intersection. The v/c ratio represents the ability of an intersection to accommodate vehicle demand. Adequate roadway capacity is likely available under conditions where the ratio is less than 0.85 v/c (FHWA 2013). Traffic flow may become unstable and result in delays as the ratio approaches 1.0 v/c (FHWA 2013).

Peak-Hour Traffic

In an urban setting, traffic volumes typically peak twice a day during the morning and evening commute. The peak traffic periods are referred to as the am peak period and the pm peak period. These peak traffic periods are usually between the hours of 7:00 am and 9:00 am, and 4:00 pm and 7:00 pm, respectively, but peak-hour traffic may occur during different periods depending on adjacent land uses (i.e., schools). The peak-hour traffic is the sum of the traffic counts during four consecutive 15-minute periods that result in the highest volume for a 1-hour period during either the am peak period or the pm peak period.

Levels of Service vs. Vehicle Miles Traveled

Level of Service

LOS is a scale that measures the operational effectiveness of a highway/freeway, roadway, or intersection. Acceptable levels of service for highways in California are defined by Caltrans.

Acceptable LOS for local roadways and intersections are generally determined by cities or counties in their General Plans.

CEQA guidelines for traffic impact analyses are being revised by the California Office of Planning and Research to reflect the use of vehicle miles traveled (VMT) rather than LOS, consistent with Senate Bill 743. The Office of Planning and Research developed preliminary discussion draft guidelines for the use of VMT in CEQA impact analysis (Office of Planning and Research 2014); however, no final guidance is currently available. The proposed project would generate additional trips during construction and would involve construction activities within roadways that could create a traffic hazard; however, the proposed project would not involve land use changes that would create a permanent source of traffic in the area. LOS provides a more accurate account of the traffic impacts for the proposed project than VMT because the long-term generation of VMT from the project is negligible. Therefore, the traffic impacts of this project will be analyzed in terms of LOS rather than VMT.

Roadway Levels of Service
Six levels of service are defined for roadways that range from LOS A to LOS E. LOS A represents the best possible service; LOS E represents the worst. Roadways operating at LOS D approach unstable traffic flow where speeds and maneuverability are restricted.

Intersection Levels of Service
Intersections are rated at various LOS to describe operating condition. LOS ratings range from LOS A, which represents the best range of operating conditions, to LOS F, which represents the worst. Control delay is a term used to describe the duration of time vehicles are delayed at intersections or a single approach. Control delay per vehicle is used as the basis for determining intersection LOS. Control delay thresholds published by the FHWA are listed in Table 3.15-1.

Table 3.15-1 Control Delay Thresholds for Signalized Intersection LOS

	Control Delay Thresholds (seconds)					
	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Control Delay per Vehicle	< 10	10-20	21-35	36-55	56-80	> 80

Source: (FHWA 2013)

3.15.2 Environmental Setting

Existing Traffic Volume
Regional freeways that provide access to the proposed project area include SR 12, located approximately 5 miles south of the proposed project, SR 116, located approximately 7 miles west of the proposed project, and US 101, which would be crossed by and located within the proposed project area. Regional access for the project would be primarily provided by northbound and southbound US 101.

Caltrans collects traffic volume data for state highways, and publishes AADT volume for both back and ahead directions. Existing traffic volume and LOS for US 101 are listed in Table 3.15-2.

Table 3.15-2 Existing Traffic Volume and Level of Service on US 101

Closest Intersection	Number of Lanes	Back AADT [a]	Ahead AADT [b]	Existing LOS [c] (Back/Ahead)
River Road	6	99,000	84,000	D/C
Fulton Road	6	84,000	88,000	C/D
Airport Boulevard	6	88,000	83,000	D/C
Shiloh Road	6	83,000	75,000	C/C
Windsor River Road	6 Back / 4 Ahead	68,000	54,000	C/C
Grant Avenue	4	53,000	52,000	C/C
South Healdsburg	4	52,000	35,000	C/C
Westside Road	4	35,000	39,500	B/B

Notes:

[a] Back AADT represents traffic volumes south of the count location.

[b] Ahead AADT represents traffic volumes north of the count location.

[c] LOS estimated using Napa County's traffic volume thresholds for LOS on freeways (refer to Table 3.15-4)

Sources: (Caltrans 2014, Napa County Watershed Information & Conservation Council 2005)

US 101 is currently operating at LOS C and LOS D in the proposed project area. Acceptable LOS for Caltrans is at the transition of LOS C and LOS D. US 101 does not meet acceptable LOS standards in all segments near the proposed project.

From US 101, the proposed project area would be accessed using a network of local roadways within the Town of Windsor and Sonoma County. Table 3.15-3 lists local roadways that provide access to the project site and provides approximate values for existing traffic volume. Roadways in the project area are shown on Figure 2.4-1 through Figure 2.4-4 in Section 2: Project Description, and in Appendix A.

Table 3.15-3 Existing Traffic Volume and Level of Service on Local Roadways

Local Roadway	Closest Intersection	No. of Lanes	Classification	Existing Traffic Volume (ADT)	Existing LOS Rating
Southern Segment					
Airport Boulevard	Fulton Road	4	Major Collector	17,144	C
Carriage Lane	Faught Road	2	Local	< 9,100	C or better [b]
Corbett Circle	Faught Road	2	Local	1,200 [a]	A
Deerwood Drive	Old Redwood Hwy	2	Local	< 9,100	C or better [b]
El Mercado Parkway	Faught Road	2	Local	< 9,100	C or better [b]
Faught Road	E. Airport Boulevard	2	Local	2,205	C or better [b]
Lavell Road	Old Redwood Hwy	2	Local	1,635	B

Local Roadway	Closest Intersection	No. of Lanes	Classification	Existing Traffic Volume (ADT)	Existing LOS Rating
Noonan Ranch Lane	Lavell Road	2	Local	< 9,100	C or better [b]
Mark West Springs Road	Lavell Road	4	Minor Arterial	21,633	C
Old Redwood Hwy	Faught Road	3	Minor Arterial	12,215	C
River Road	Barnes Road	2	Major Collector	15,544	E
Northern Segment (including Fitch Mountain Substation)					
Arata Lane	Liberty Oak Lane	2	Crosstown Street	6,200	B
Bailhache Avenue	Old Redwood Hwy	2	Local	1,575	B
Brooks Road	Arata Lane	2	Crosstown Street	8,900	C
Chalk Hill Road	Pleasant Avenue	2	Major/Minor Arterial	< 8,600	C or better [b]
Chisholm Road	Pleasant Avenue	2	Local	< 1,000 [a]	A
Grant Avenue	Old Redwood Hwy	2	Local	< 1,000 [a]	A
Hillview Road	Arata Lane	2	Local	< 9,000	C or better [b]
Mt. Weske Drive	Brooks Road	1	Local	< 9,000	C or better [b]
Los Amigos Road	Milk Barn Road	2	Local	1,419	C or better [b]
Pleasant Avenue	Old Redwood Hwy	2	Major Collector	3,100	C
Shiloh Ridge Road	Faught Road	2	Local	2,355	A
Shiloh Road	Business Park Court	2	Crosstown Street	10,800	D

Notes:

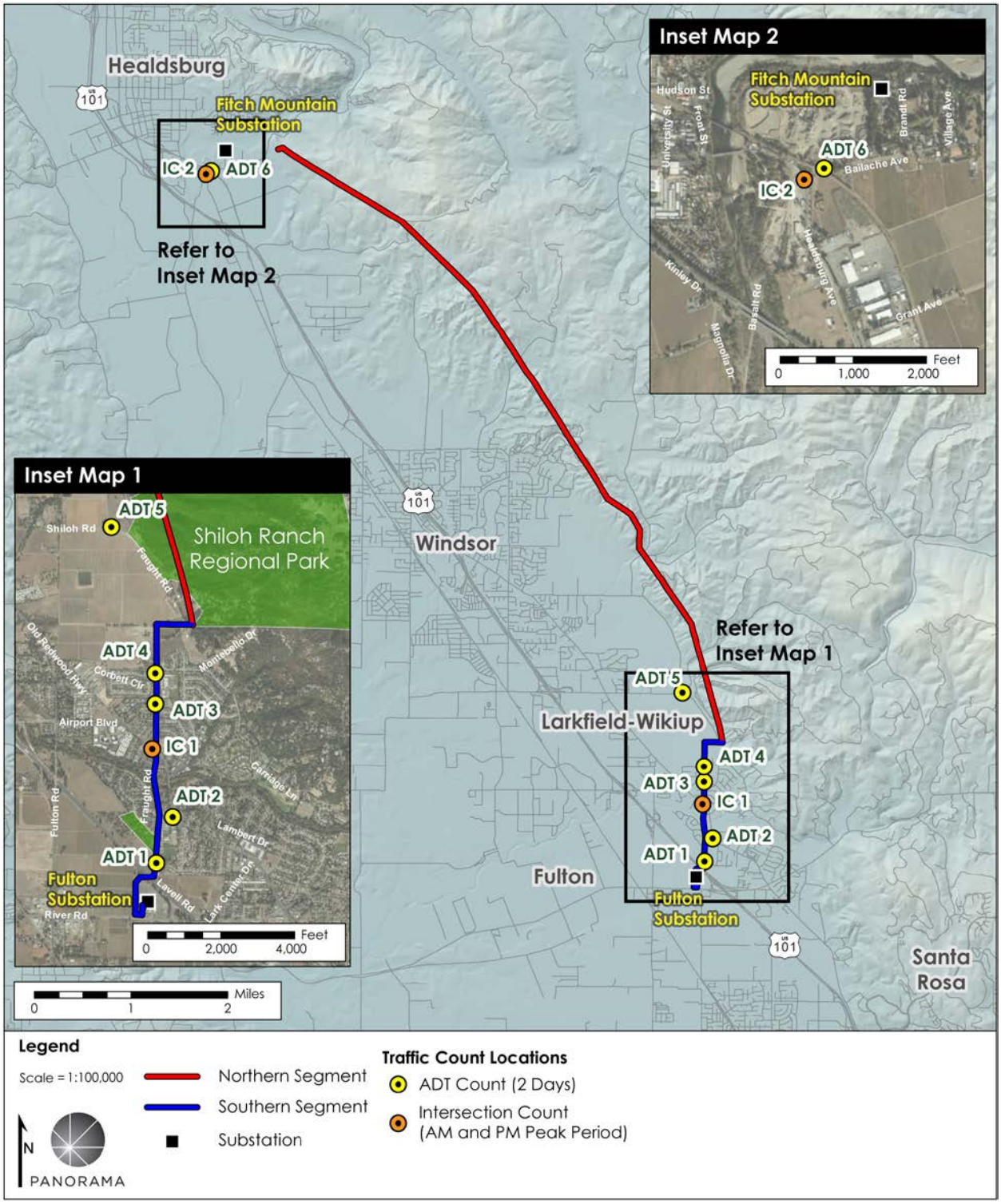
[a] Engineering estimates were assigned to local roads that do not serve through traffic are based on the number of residential dwelling units on a street. Ten daily trips are assumed for each residential dwelling unit the street serves. This method was applied to local roads with a primary use of residential access.

[b] For local roads that potentially serve a secondary arterial/collector function, an LOS C or better was assumed given that these routes cater to local traffic and provide access to and from a limited number of destinations.

Sources: (Baymetrics Traffic Resources 2016, Caltrans 2014, County of Sonoma 2016, Town of Windsor 2016)

Cities, counties, and transportation agencies will often collect traffic volume data on larger roadways (arterial and collector); the availability of data for local roadways varies based on the level of traffic. Most local roads do not experience enough traffic to warrant data collection. Existing traffic volumes for roadways within the proposed project area were obtained from Caltrans (2014), Sonoma County (2008), and the Town of Windsor (2013), where such data existed. Additional traffic volume data was collected by Baymetrics Traffic Resources on June 1 and 2, 2016, for key roadways and intersections where existing data was not available or the available data was outdated. Figure 3.15-1 shows the locations where Baymetrics conducted traffic counts.

Figure 3.15-1 Traffic Count Locations



Sources: *(ESRI 2016, PG&E 2016)*

Traffic volumes obtained from previous data (i.e., prior to the IS/MND baseline year) is generally representative of the traffic conditions in the proposed project area because the traffic in the area is primarily local, except for US 101, which includes commuter traffic from other areas. Much of the residential development surrounding the proposed project dates to the 1950s and 1960s (County of Sonoma 2006). Increases in traffic since the date of collected traffic data would not change the baseline LOS on area roads because the annual population growth rate from 2010 to 2015 was less than 1 percent for both Sonoma County and the Town of Windsor (US Census Bureau, Population Division 2016).

Existing Levels of Service

Roadways

Cities, counties, and state transportation agencies frequently publish LOS ratings for freeways and local roadways, as well as traffic volume thresholds for estimating LOS. Caltrans and Sonoma County do not publish LOS ratings for all the roadways in the proposed project area, or volume thresholds for estimating LOS. Therefore, volume thresholds published by Napa County, a neighboring county with comparable roadways, were used to estimate existing LOS for roadways that do not have a designated LOS rating published by Caltrans or Sonoma County.

Napa County provides generalized LOS volume thresholds in their *Baseline Data Report* (Napa County Watershed Information & Conservation Council 2005), which is based on methodology from the *Highway Capacity Manual* (Transportation Research Board 2010). Table 3.15-4 lists Napa County's daily traffic volume thresholds for freeways, arterial roadways, and collector roadways that are used to estimate LOS for roadways in the proposed project area. LOS ratings for freeways and local roadways are listed in Table 3.15-2 and Table 3.15-3, respectively.

Table 3.15-4 Traffic Volume Thresholds for Roadway LOS

Roadway Class	Total Lanes	Characteristics	Traffic Volume Thresholds (ADT)				
			LOS A	LOS B	LOS C	LOS D	LOS E
Freeway	4	Rural or Urban	23,800	39,600	55,200	67,100	74,600
	6	Rural or Urban	36,900	61,100	85,300	103,600	115,300
	8	Rural or Urban	49,900	82,700	115,300	140,200	156,000
Arterial	2	Rural	2,600	5,300	8,600	13,800	22,300
	2	Urban	1,000	1,900	11,200	15,400	16,300
	4	Rural	17,500	28,600	40,800	52,400	58,300
	4	Urban	1,500	4,100	26,000	32,700	34,500
	6	Urban	2,275	6,500	40,300	49,200	51,800
Collector	2	Rural or Urban	1,067	3,049	9,100	14,600	15,600
	4	Rural or Urban	2,509	7,169	21,400	31,100	32,900

Source: (Napa County Watershed Information & Conservation Council 2005)

Intersections

Numerous intersections are located along the roadways identified in Table 3.15-2 and Table 3.15-3. Access for the proposed project would be provided from US 101 via four major intersections identified in Table 3.15-5. The intersection at Faught Road and Old Redwood Highway is currently operating at LOS F during am and pm peak periods, which is below acceptable LOS standards.

Bikeways

Designated Class II bikeways would be crossed or located near the Southern Segment; however, it is assumed that all local roads in residential areas are Class III bikeways because all Sonoma County roads, except where specifically excluded, are available for use by bicycles (State of California 2015). Designated bikeways near the project alignment are listed in Table 3.15-6 and shown on Figure 3.15-2. Any roadway listed in Table 3.15-3 may be considered a Class III bikeway unless bike access is specifically excluded, such as US 101.

Table 3.15-5 Existing LOS and Control Delays at Major Intersections

Roadway Intersections	Type	Existing LOS Rating AM/PM Peak [a]	Existing Control Delay per Vehicle AM/PM Peak (seconds) [a]
US 101: Northbound Off-Ramp & Mark West Springs Road	Signalized	A / A	8.5 / 8.1
US 101: Southbound Off-Ramp & River Road-Mark West Springs Road	Signalized	B / C	19.3 / 21.9
Faught Road & Old Redwood Highway	TWSC [b]	F / F	77.8 / 121.2
Healdsburg Avenue & Bailhache Avenue	TWSC [b]	B / B	12.0 / 14.7

Notes:

[a] Peak hour intersection LOS based on Synchro-Simtraffic software (Version 9.07), 2010 Highway Capacity Manual, Signalized operations methodology. Intersection calculations yield an LOS (A, B, C, D, E, or F) and associated vehicle delay in seconds.

[b] TWSC = Two-way stop-controlled

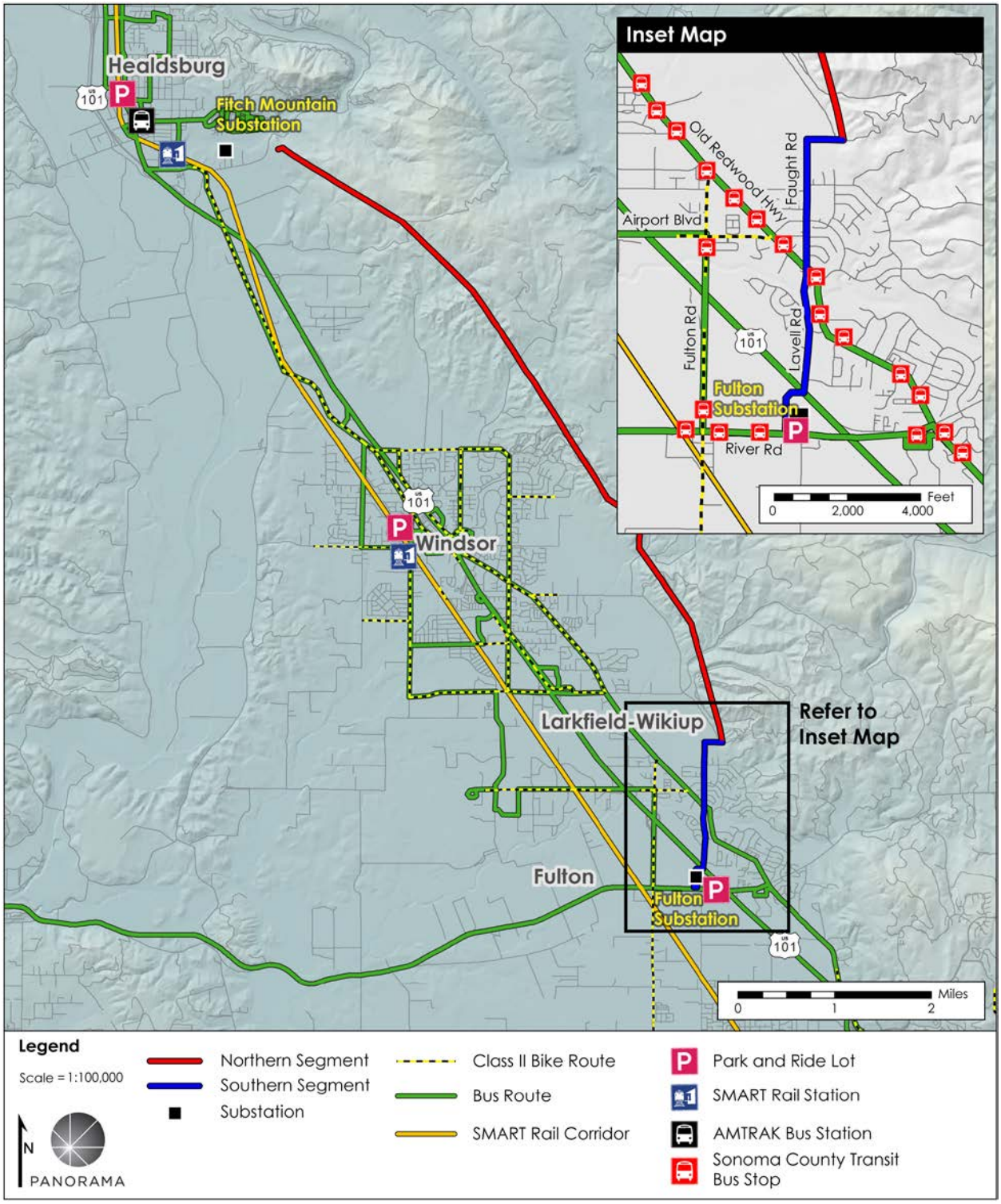
Sources: (Baymetrics Traffic Resources 2016, Leonard Charles and Associates 2013)

Table 3.15-6 Designated Bikeways Near the Project Alignment

Bikeway	Class	Location
Old Redwood Highway	Class II	From Mark West Springs Road to Shiloh Road
Pleasant Avenue	Class II	From Old Redwood Highway to Winter Born Way
Hembree Lane	Class II	From Pleasant Avenue to Arata Lane
Arata Lane	Class II	From Old Redwood Highway to Hembree Lane

Source: (County of Sonoma 2010)

Figure 3.15-2 Bikeways and Public Transit Routes Near the Project Alignment



Sources: (ESRI 2016, PG&E 2016, Sonoma County Transportation Authority 2016, Sonoma Marin Area Rail Transit 2016, Sonoma County Transportation Authority 2014, SCT 2015, Amtrak 2016a)

Public Transit

Sonoma County Transit (SCT), Sonoma Marin Area Rail Transit (SMART), and Amtrak operate public transportation systems that would be crossed or located near the Southern Segment. Public transit routes near the project alignment are listed in Table 3.15-7 and shown on Figure 3.15-2.

Table 3.15-7 Public Transit Routes Near the Project Alignment

Transit System	Route/Line Name	Roadways Used near Project Alignment	Schedule
Bus			
SCT	Routes 20(X)	• River Road • Mark West Springs Road	• 6:32 am to 7:07 pm Weekdays (every 1.5 hours)
	Route 60	• Old Redwood Highway • Mark West Springs Road • US 101	• 6:17 am to 9:11 pm Weekdays (every 20-35 minutes) • 8:40 am to 9:48 pm Weekend (every 1.5 to 2 hours)
	Route 62	• River Road • Mark West Springs Road • Fulton Road • Airport Boulevard	• 7:18 am to 6:30 pm Weekdays (every 45 to 60 minutes)
	Route 66 (Windsor Shuttle)	• Arata Lane • Hembree Lane • Brooks Road • Shiloh Road	• 8:00 am to 4:58 pm Weekdays (every 45 to 50 minutes) • 9:35 am to 3:27 pm Weekends (every 45 to 80 minutes)
	Route 67 (Healdsburg Shuttle)	• Healdsburg Avenue	• 8:50 am to 4:10 pm Monday to Saturday (every 70 to 90 minutes)
Amtrak	San Joaquin: California Thruway Bus Connection	• Healdsburg Avenue • US 101	• 10:45 am and 2:45 pm Southbound • 11:55 am and 5:30 pm Northbound
Rail			
SMART	SMART Rail Phase I	SMART will begin operation of special preview runs in July 2017. Trains will operate every 30 minutes during peak commute periods as well as limited midday and weekend services when full service begins. The closest station to the proposed project would be located at Airport Boulevard.	

Sources: (Amtrak 2016b, Sonoma Marin Area Rail Transit 2017, SCT 2016)

Existing Air Traffic

Two airports and two heliports are located within 10 miles of the proposed project. Most regional air traffic in the area occurs to and from the Charles M. Shultz – Sonoma County Airport and Healdsburg Municipal Airport. According to 2015 statistics, 267 single-engine aircraft, 39 multi-engine aircraft, five jet aircraft, and four helicopters were based at Charles M. Shultz – Sonoma County Airport (SkyVector 2015a). Annual operations included 46,333 general aircraft itinerant operations, 25,805 general aircraft local operations, 6,669 air taxi operations, 3,734 commercial operations, and 922 military operations (SkyVector 2015a). Healdsburg Municipal Airport had an average of 44 single engine aircraft and two multi-engine aircraft

based on field in 2015 with 16,320 annual general aircraft local operations and 4,080 annual general aircraft itinerant operations (SkyVector 2015b). Airports and heliports within 10 miles of the proposed project are listed in Table 3.15-8 and shown on Figure 3.15-3.

Table 3.15-8 Airports and Heliports within 10 Miles of the Project Area

Airport/Helipad	Closest Project Facility	Approximate Distance (miles)
Charles M. Shultz – Sonoma County Airport	Fulton Substation	2.0
Healdsburg Municipal Airport	Fitch Mountain Substation	3.6
Sutter Santa Rosa Regional Hospital Helipad	Fulton Substation	0.5
Santa Rosa Memorial Hospital Helipad	Fulton Substation	4.8

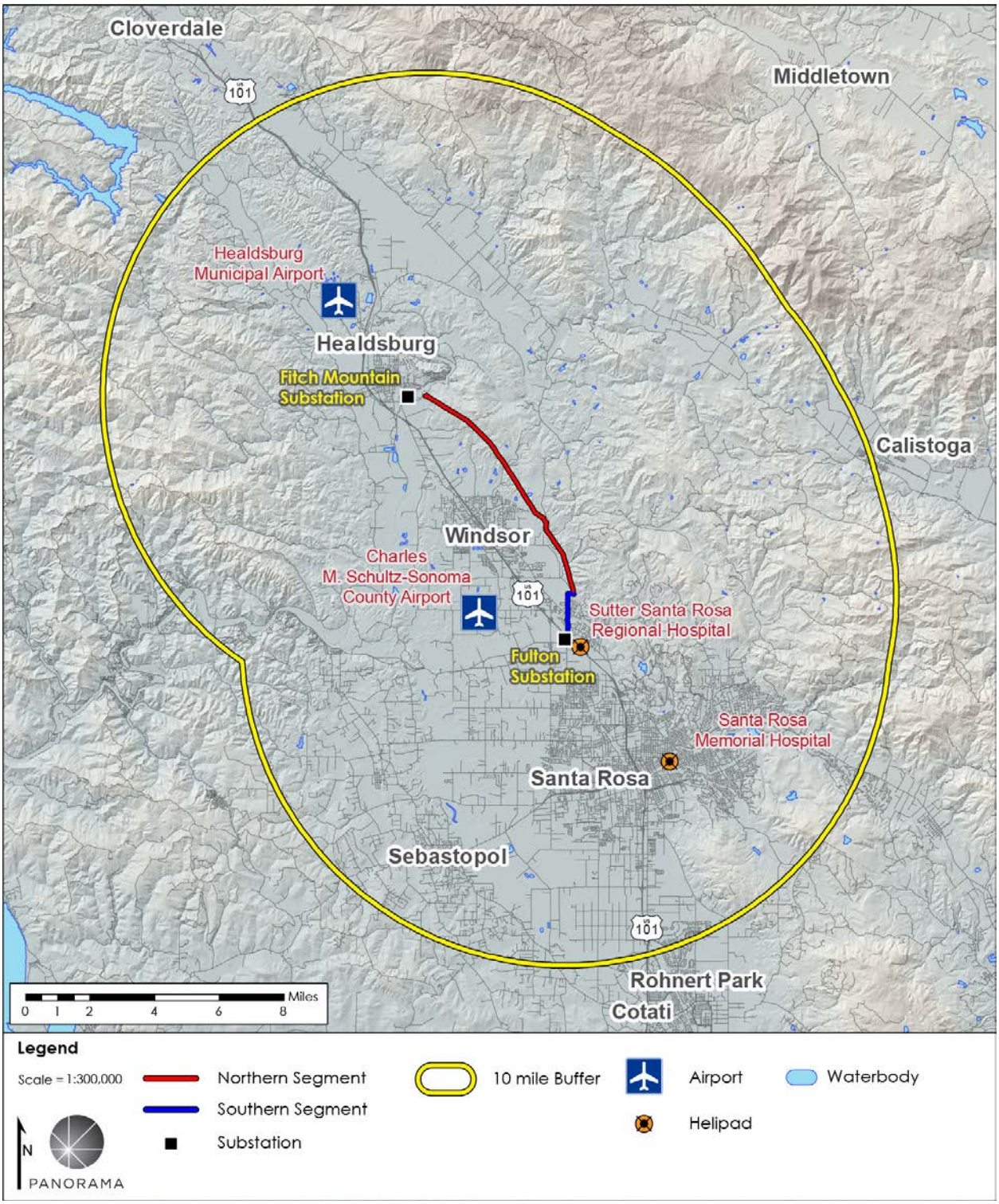
Sources: (AirNav 2017, Google 2017)

Emergency Services

Emergency service providers in the area rely on access via roadways identified in Table 3.15-3, as well as the helipads at local hospitals identified in Table 3.15-8 and shown on Figure 3.15-3. Emergency services in the project area are provided by the following:

- Sutter Santa Rosa Regional Hospital
- Santa Rosa Memorial Hospital
- Windsor Fire Protection District
- Rincon Valley Fire Protection District
- Sonoma County Sheriff's Department
- Town of Windsor Police Department
- City of Healdsburg Police Department
- California Highway Patrol

Figure 3.15-3 Airports and Helipads within 10 Miles of the Project Alignment



Sources: (ESRI 2016, PG&E 2016, USGS 2012, Google Maps 2016)

3.15.3 Impact Analysis

Summary of Impacts

Table 3.15-9 presents a summary of the CEQA significance criteria and impacts on transportation and traffic that would occur during construction, operation, and maintenance of the proposed project.

Table 3.15-9 Summary of Proposed Project Impacts on Transportation and Traffic

Would the proposed project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☒	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☒	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☒	☐	☐
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
e) Result in inadequate emergency access?	☐	☒	☐	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☒	☐	☐

Impact Discussion

a) Would the proposed project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	Significance Determination
	Less than significant with mitigation

Construction

Level of Service Standards and Congestion Policies

The Comprehensive Transportation Plan is a multi-modal plan administered by the Sonoma County Transportation Authority that defines goals, objectives, and policies for improving mobility on county streets and highways and reducing transportation-related impacts. None of the goals, objectives, and polices defined in the Comprehensive Transportation Plan are applicable to the proposed project because the project would not induce population growth or have long-term effects on the circulation system.

The Circulation and Transit Element of the Sonoma County General Plan addresses the location and extent of planned transportation projects in Sonoma County and identifies goals, objectives, and policies affecting the circulation system. The Circulation and Transit Element defines standards for maintaining LOS C or better on roadway segments and LOS D or better at intersections (Sonoma County 2016). The proposed project could result in a potentially significant impact on the circulation system if it (1) caused average wait times to increase by 5 seconds or more per vehicle at intersections that currently operate below acceptable LOS standards (Sonoma County Transportation and Public Works Department 2016), (2) caused LOS for local roadways and intersections to fall below acceptable standards, or (3) worsened LOS for a facility that is currently operating below acceptable standards.

Caltrans provides guidelines for preparing traffic impact studies that include generalized targets for acceptable LOS on State highways (Caltrans 2002). The guidelines state that Caltrans attempts to maintain a target LOS on State highway facilities at the transition between LOS C and LOS D, but recognizes that such standards may not always be possible depending on the unique conditions of each highway segment (Caltrans 2002). The proposed project could result in a significant impact if LOS for highways was reduced below LOS D.

Construction traffic would temporarily increase existing traffic volume on roadways that could affect the circulation system and LOS. Construction traffic would fluctuate throughout the ~~18~~12-month construction period depending on the locations and type of work activities. The greatest number of daily vehicle trips in both the Southern and Northern Segments would occur during conductor removal and installation because the work activity would involve the greatest number of construction vehicles, equipment, and workers. Table 3.15-10 lists a conservative estimate for the maximum number of daily construction and worker vehicle trips that would occur during conductor removal and installation.

Table 3.15-10 Estimated Maximum Daily Construction Traffic

Segment	Daily Construction Vehicle Trips		Daily Worker Vehicle Trips		Total Daily Trips		
	Peak Hour	Non-Peak Hour	Peak Hour	Non-Peak Hour	Peak Hour	Non-Peak Hour	Total
Southern Segment	50 ~~200~~	50 ~~200~~	42	0	92 ~~242~~	50 ~~200~~	**142 ~~442~~**
Northern Segment (including Fitch Mountain Substation) [a]	64	64	58	0	122	64	**186**

Note:

[a] Construction traffic associated with modifications to the Fitch Mountain Substation is included with the analysis for the Northern Segment because the work would involve relatively few daily vehicle trips (approximately 24 total) on the same roadways identified for the Northern Segment (e.g., Healdsburg Avenue and Bailhache Avenue).

Source: (PG&E 2016)

Construction traffic would be most concentrated on local roadways that provide the most direct or quickest access to the project alignment and adjacent staging areas. Average daily construction traffic would generally be lower than the maximum daily construction traffic listed in Table 3.15-10, but construction traffic on roadways could reach the maximum trip estimate on local access roads for short periods of time. Roadways that provide regional access for worker commutes and deliveries to the proposed project area would experience substantially less construction traffic than direct access roads. Impacts are discussed in the following sections.

Temporary Traffic Circulation Impacts from Construction Activities

Table 3.15-11 provides a conservative estimate for traffic volume during construction, if the maximum daily construction traffic (listed in Table 3.15-10) occurred on each roadway in addition to the existing traffic volume (listed in Table 3.15-2 and Table 3.15-3). Construction traffic would not reduce existing LOS for any roadways below acceptable LOS standards; however, under a worst-case scenario, construction traffic could temporarily worsen LOS for US 101, River Road, and Shiloh Road, which currently operate below acceptable standards at LOS D.

US 101 and Shiloh Road would provide regional access routes for worker commutes and long-distance deliveries during construction. Most of the estimated construction trips would occur on local roads between staging areas and pole locations, and it is therefore expected that US 101 and Shiloh Road would experience less than half of the maximum daily construction traffic associated with the proposed project (i.e., a maximum of approximately ~~220~~ 93 daily trips). Construction traffic would represent less than 0.5 percent of the daily traffic volume on US 101 and less than 1 percent of the daily traffic volume on Shiloh Road. Regional trips for the proposed project would not be concentrated during peak hours, and temporary construction traffic would not substantially worsen LOS on US 101 and Shiloh Road.

Table 3.15-11 Roadway Effects During Construction

Roadway [a]	Relationship to Proposed Project	Existing LOS Rating Meets Standards? [b]	Traffic Volume Threshold for Acceptable LOS (ADT) [c]	Traffic Volume During Construction (ADT)	Estimated Change in LOS
Southern Segment [d]					
US 101 [e]	• Spanned • Regional Access	**No**	85,300	99,093 ~~99,220~~	None
Airport Boulevard	• Regional Access • Potential Detour Route	Yes	21,400	17,286 ~~17,586~~	None
Carriage Lane [f]	• Spanned	Yes	9,100	< 9,242 ~~< 9,542~~	None
Corbett Circle	• Local Access	Yes	9,100	1,342 ~~1,642~~	None
Deerwood Drive [f]	• Spanned	Yes	9,100	< 9,242 ~~< 9,542~~	None
El Mercado Parkway [f]	• Spanned • Potential Detour Route	Yes	9,100	9,242 ~~< 9,542~~	None
Faught Road	• Spanned/Immediately Adjacent • Local Access	Yes	9,100	2,347 ~~2,647~~	**Potential Decline**
Lavell Road	• Immediately Adjacent • Local Access	Yes	9,100	1,777 ~~2,077~~	**Potential Decline**
Noonan Ranch Lane [f]	• Spanned	Yes	9,100	< 9,242 ~~< 9,542~~	None
Mark West Springs Road	• Regional Access	Yes	26,000	21,775 ~~22,075~~	None
Old Redwood Highway	• Spanned • Local/Regional Access	Yes	14,500	12,357 ~~12,657~~	None
River Road [d]	• Local Access	**No**	9,100	15,288 ~~15,588~~	None
Northern Segment (including Fitch Mountain Substation) [g]					
Arata Lane	• Regional Access	Yes	9,100	6,386	None
Bailhache Avenue	• Regional Access	Yes	9,100	1,761	None
Brooks Road	• Spanned • Local Access	Yes	9,100	9,086	None

Roadway [a]	Relationship to Proposed Project	Existing LOS Rating Meets Standards? [b]	Traffic Volume Threshold for Acceptable LOS (ADT) [c]	Traffic Volume During Construction (ADT)	Estimated Change in LOS
Chalk Hill Road [f]	• Spanned • Local Access	Yes	9,100	< 8,786	None
Chisholm Road [f]	• Local Access	Yes	9,100	< 1,186	None
Grant Avenue [f]	• Local Access	Yes	9,100	< 1,186	None
Hillview Road [f]	• Local Access	Yes	9,100	< 9,186	None
Los Amigos Road	• Local Access	Yes	9,100	1,605	None
Pleasant Avenue	• Regional Access	Yes	9,100	3,286	None
Shiloh Ridge Road	• Spanned • Local Access	Yes	9,100	2,541	None
Shiloh Road	• Regional Access • Potential Detour Route	**No**	9,100	10,893	None

Notes:

[a] Existing traffic volume and LOS ratings are listed in Table 3.15-2 and Table 3.15-3.

[b] Acceptable LOS for US 101 the transition between LOS C and LOS D or better, and acceptable LOS for all other roadways is LOS C or better.

[c] Traffic volume thresholds for acceptable LOS are based values published by Napa County, as listed in Traffic volumes obtained from previous data (i.e., prior to the IS/MND baseline year) is generally representative of the traffic conditions in the proposed project area because the traffic in the area is primarily local, except for US 101, which includes commuter traffic from other areas. Much of the residential development surrounding the proposed project dates to the 1950s and 1960s. Increases in traffic since the date of collected traffic data would not change the baseline LOS on area roads because the annual population growth rate from 2010 to 2015 was less than 1 percent for both Sonoma County and the Town of Windsor.

[d] The appropriate traffic volume threshold was selected for each roadway depending on the approximate characteristics of roadway segments in the project area.

[e] The maximum daily vehicle trips during construction in the Southern Segment would be approximately ~~442~~ 142 trips, except at River Road located west of US 101. Daily vehicle trips on River Road would not exceed approximately 10 percent of the total estimated for the Southern Segment (approximately ~~44~~ 14 trips).

[f] Existing traffic volume on US 101 in the project area ranges from 83,000 to 99,000 AADT. The greatest value was used to estimate traffic volume on US 101 during construction.

[g] Estimates were provided for roadways with no existing or collected traffic counts. These estimates often assumed a volume of < 9,100, which is the threshold for two-lane collectors at LOS C. Existing traffic volumes are likely much lower and LOS is likely better than LOS C, as these routes cater to local traffic and provide access to and from a limited number of destinations. It was therefore assumed that capacity exists to accommodate construction traffic without deterioration below acceptable LOS standards.

[h] The maximum daily vehicle trips in the Northern Segment, including Fitch Mountain Substation, would be approximately 186 trips.

Sources: (Baymetrics Traffic Resources 2016, Caltrans 2014, County of Sonoma 2016, Town of Windsor 2012)

River Road would only provide access to project areas west of US 101, including Fulton Substation, and less than 10 percent of the Southern Segment. Only a few hundred feet of River Road would be used to access Fulton Substation, and daily vehicle trips west of US 101 would be a fraction of the total estimated for the Southern Segment. Temporary construction traffic on the short segment of River Road would not substantially worsen existing LOS. The proposed project would have a less than significant impact on acceptable LOS standards for roadways near the proposed project.

Construction traffic would temporarily increase delay periods and decrease peak-hour LOS at two of the four intersections identified in Intersections, above. Construction traffic could temporarily impact the intersection at Healdsburg Avenue and Bailhache Avenue, which currently operates under LOS B (am and pm peak hour). Peak delay periods at Healdsburg Avenue and Bailhache Avenue could increase by up to approximately 3 to 5 seconds per vehicle, which would lower LOS from B to C. Impacts on the intersection at Healdsburg Avenue and Bailhache Avenue would not be significant because existing LOS is well above existing standards and the project would not cause LOS to drop below acceptable standards.

Construction traffic could also impact the intersection at Faught Road and Old Redwood Highway, which currently operates under LOS F (am and pm peak hours). Peak delay periods at Faught Road and Old Redwood Highway could increase by as much as 177 seconds (2.85 minutes) under a worst-case scenario, which would substantially worsen existing LOS that is already operating below acceptable standards. Construction traffic at Faught Road and Old Redwood Highway would last for ~~3 to 54~~ months or less during work in the Southern Segment; therefore, impacts on LOS at the intersection would be significant. MM Traffic-1 requires PG&E to avoid routing construction traffic through the intersection at Faught Road and Old Redwood Highway by using Airport Boulevard, Airport Boulevard East, Wikiup Drive, and El Mercado Parkway to access the majority of Southern Segment. If the intersection cannot be avoided during specific work activities (i.e., reconductoring), construction traffic through the intersection would not exceed 10 trips during the weekday am peak and pm peak commute periods (i.e., 7:00 am to 9:00 am, and 4:00 pm to 6:00 pm). Construction traffic impacts on the intersection of Faught Road and Old Redwood Highway would be reduced to less than significant with implementation of MM Traffic-1.

The project would not cause significant increases in traffic that could cause traffic delays and changes in LOS; however, construction activities may result in changes to traffic circulation and the need to stop traffic while work is being completed on a road segment. Temporary lane closures may be necessary during overhead reconductoring and where equipment would be located within roadways. The exact locations of lane closures and detour routes would be determined at the time of construction, but would likely occur on roadways that are spanned by or immediately adjacent to the power line, as identified in Table 3.15-11.

Lane closures in the Northern Segment would be short-term, lasting a few days, and would only occur intermittently during work hours on roads spanned by the proposed project during guard structure installation and over-road conductor stringing. Lane closures in the Southern

Segment would also occur during work hours for a few days at each active work location. Lane closures would not last for more than a few minutes at a time. LOS changes based on lane closures were not modeled, as the exact locations and durations of closures are not known. It is expected that lane closures could reduce roadway capacity by 50 percent or less (i.e., closing one, two, or more lanes at a time). This capacity reduction could impair the flow of traffic and reduce LOS if closures were to occur during peak hours when traffic volumes are highest. Since the exact locations and durations of closures are not known, it is assumed that impacts from temporary lane closures could be significant, particularly along Lavell Road and Faught Road where two schools are located.

PG&E would obtain applicable encroachment permits from Caltrans and Sonoma County for construction activities within the US 101 ROW and county roadways. Encroachment permits would include requirements for working within roadways, including lane closure and traffic control procedures, but would not include procedures to limit impacts on LOS and maintain access. Impacts on the circulation system would therefore remain significant. MM Traffic-1 requires PG&E to minimize impacts from lane closures by installing guard structures instead of closing lanes, where feasible, and by maintaining traffic flow and access to driveways, residential communities, and parking lots. MM Traffic-1 would restrict lane closures in the Southern Segment during the weekday am peak and pm peak commute periods. MM Traffic-1 would also restrict lane closures on Lavell Road and Faught Road during the afternoon school commute periods during the school year at San Miguel Elementary School and Mark West Elementary School (1:00 pm to 3:45 pm Mondays, Tuesdays, Thursdays, and Fridays, and 12:15 pm to 1:45 pm Wednesdays). LOS impacts from lane closures would be less than significant with implementation of MM Traffic-1.

Operation and Maintenance

The proposed project would not cause a long-term increase in traffic volume or effects on LOS. Operation and maintenance activities would be approximately the same as operations and maintenance conducted for the existing lines and substations, including occasional vehicle trips and lane closures to inspect and repair the facilities. The proposed project would not cause a greater impact on the circulation system and LOS than existing operation and maintenance activities. No impact would occur.

Required APMs and MMs: MM Traffic-1

b) Would the proposed project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	**Significance Determination**
	Less than significant with mitigation

Construction

Applicable circulation plans and LOS standards for the project are addressed in detail under Impact a). As stated previously, the proposed project would temporarily increase traffic volume on roadways from construction and worker vehicle trips and lane closures that could conflict with

LOS standards defined by Sonoma County. The impacts would be temporary (approximately ~~18~~12 months) but could potentially be significant. MM Traffic-1 would be implemented to reduce potentially significant circulation and LOS impacts to less than significant by requiring PG&E to reduce traffic congestion, including routing construction traffic, implementing traffic controls, and restricting lane closures during peak commute periods. Impacts on circulation and LOS would be less than significant with implementation of MM Traffic-1.

Operation and Maintenance

As stated under Impact a) above, the proposed project would not cause a long-term increase in traffic volume or effects on LOS. Operation and maintenance activities would be approximately the same as operations and maintenance conducted for the existing lines and substations, including occasional vehicle trips and lane closures to inspect and repair the facilities. The proposed project would not cause a greater impact on the circulation system and LOS than existing operation and maintenance activities. No impact would occur.

Required APMs and MMs: MM Traffic-1

c) Would the proposed project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	**Significance Determination**
	Less than significant with mitigation

Construction

The closest airport to the project corridor is the Charles M. Shultz – Sonoma County Airport located approximately 2.5 miles west of Fulton Substation. A portion of the project alignment would overlap with the Charles M. Shultz – Sonoma County Airport Influence Area; thus, structure height limits defined in the Comprehensive Airport Land Use Plan would apply to this area (Airport Land Use Commission 2016b). The proposed project would not be located within the existing or proposed Comprehensive Airport Land Use Plan Safety Zones.

Helicopters would be used to support pole installation, pole removal, and conductor installation activities at locations adjacent to Charles M. Schultz – Sonoma County Airport airspace. Between one and three helicopters may be used each day work occurs during the ~~18~~12-month construction period. Helicopters would be used to transport personnel, equipment, and materials between staging areas and pole sites. Helicopter flights within airport airspace would be coordinated with airport traffic control and conducted in coordination with applicable FAA regulations.

Helicopters could potentially carry external loads in congested areas (i.e., city, town, or open-air assembly of people) during construction activities. Helicopter flights with external loads in congested areas require submittal of a "Congested Area Plan" to the FAA (14 CFR § 133.33) for approval. A Congested Area Plan would include the anticipated work dates, a detailed description of the work to be performed, safety control measures, and appropriate emergency response procedures. Compliance with FAA rules and regulations would ensure that safety risks associated with increased air traffic in the Northern Segment are less than significant.

Proposed helicopter activities in the Southern Segment would occur within approximately 70 to 100 feet of approximately 10 residences, and over roadway and pedestrian walkways. Helicopter work at these distances would require additional FAA authorization and may require residents to temporarily evacuate the properties for approximately 2 to 3 hours on two separate occasions. The proposed project would create a substantial safety risk if the FAA authorizes helicopter work within residential areas. PG&E would comply with FAA requirements for helicopter activities in residential areas that would reduce safety risks; however, PG&E has not identified procedures for closing public areas or coordinating with residents that may need to temporarily evacuate their properties. The safety risk to residential areas from helicopter activities would be a significant impact.

MM Traffic-2 requires PG&E to implement safety procedures during overhead helicopter activities, such as installing guard structures or positioning flaggers, or clearly marking the areas with signs and flagging and restricting public access. If residences must be temporarily evacuated during helicopter activities in the Southern Segment, MM Traffic-2 requires PG&E to coordinate the timing of such activities with the affected property owners and residents. Temporary safety risks from helicopter activities in the Southern Segment would be less than significant with implementation of MM Traffic-2.

Operation and Maintenance

The proposed project would involve replacing existing poles with new poles that would be approximately 3 to 30 feet taller than existing poles (15 feet on average). New poles would be installed in approximately the same alignment as the existing poles and within approximately 12 to 35 feet of the existing locations. Approximately 1.5 miles of the project alignment would fall within the FAR Part 77 Airspace Plan (Airport Land Use Commission 2016a). The FAR Part 77 Airspace Plan requires FAA notification for specific construction projects detailed under FAA Regulations and Title 14 CFR § 77.9. A Notice of Proposed Construction or Alteration (Form 7460) must be filed for the proposed project at least 45 days prior to construction, or the date an application for a construction permit is filed (whichever is first) to comply with FAR Part 77, which identifies the locations and heights of proposed structures within specific distances to airports. The FAA would then complete an aeronautical study for the project, issue a determination regarding the potential for effects to airspace, and identify any requirements necessary to address the effects, which could include modifying the proposed design.

PG&E filed a Notice of Proposed Construction or Alteration with the FAA on December 4, 2014 in the early planning stages of the proposed project. The FAA completed an aeronautical study and determined that there would be "no hazard" to airspace based on the proposed heights and locations of project poles (PG&E 2016); however, the FAA terminated its initial determination on November 28, 2016, because the FAA did not receive a response from PG&E after submitting a letter requesting a status update on the project (McDonald 2017). PG&E would be required to refile a Notice of Proposed Construction or Alteration within 45 days prior to construction with any updates following final engineering and design (i.e., pole height and location changes). Based on the previous determination for project poles, it is assumed that FAA would reach the

same conclusion in subsequent determinations and new poles would not result in air navigation hazards. Impacts from new poles would be less than significant.

FAA standards require any structure exceeding an overall height of 200 feet above ground level to be marked and/or lighted unless an aeronautical study finds lighting and marking measures to be unnecessary (FAA 2016). PG&E identified one facility in the Northern Segment that would be greater than 200 feet above ground, which includes the conductor that would be installed between Poles 28 and 29. PG&E filed a Notice of Proposed Construction or Alteration with FAA for the conductor span. FAA conducted an aeronautical study and determined there would be no hazard to air navigation if PG&E marked the structure with spherical markers ("aviation marker balls") (FAA 2017a); however, FAA subsequently reversed its determination and concluded that no marking or lighting would be necessary for aviation safety (FAA 2017b). Impacts from suspended conductor would be less than significant.

Aerial inspections during operation and maintenance of the proposed project would continue to occur approximately annually as they are for the existing lines. The proposed project would not increase air traffic levels that could result in safety risks. No impact would occur.

Required APMs and MMs: MM Traffic-2

d) Would the proposed project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	**Significance Determination**
	Less than significant with mitigation

Construction

Falling Objects

The proposed project would involve overhead construction activities in populated areas. Overhead construction activities, such as pole hardware and conductor replacement, involve a general risk of falling objects. Conductor wire could lose tension during reconductoring activities, causing the suspended wire to sag and fall to the ground, and helicopters could inadvertently drop their loads. Construction activities that pose a risk of falling objects would occur over public and private roadways, pedestrian pathways, residential properties, school properties, driveways, parking lot entrances, and parks. The proposed project would temporarily increase hazards in these areas during construction from the potential for falling objects. PG&E would follow common safety practices for overhead construction activities to reduce hazards to the public, which include either temporarily installing guard structures where public access would continue, closing public access, or positioning flaggers to direct members of the public when it is safe to pass.

Guard structures would be used to prevent conductor from inadvertently sagging onto sensitive features and public thoroughfares, such as energized electrical lines, major roadways, or recreational trails, during reconductoring. PG&E has identified preliminary locations for proposed guard structures, as shown in Appendix A. Guard structures have been identified for

most public roadways; however, guard structures have not been identified at multiple locations where public access cannot be closed for the duration of reconductoring activities, including roadways, driveways, parking lot entrances, and pedestrian pathways. The hazards from failing objects at these unprotected locations would be a significant impact.

MM Traffic-2 requires PG&E to implement safety procedures during overhead construction activities, such as installing guard structures or positioning flaggers, or clearly marking the areas with signs and flagging and restricting public access. If access to properties must be closed during overhead activities, MM Traffic-2 requires PG&E to coordinate the timing of such activities with the affected property owners and residents. Impacts would be less than significant with mitigation.

Lane Closures

The circulation system could be substantially disrupted from lane closures during construction activities, including pedestrian pathway and bikeway closures, which would temporarily increase traffic hazards. The increased traffic hazard from lane closures would be a significant impact. MM Traffic-1 requires PG&E to define appropriate traffic control procedures, including guidelines for installing barriers and signage. Traffic hazards from lane closures would be less than significant with mitigation.

Road Damage

The use of heavy construction equipment could damage the surface or curbs on roadways. Substantial damage would create a road hazard if the damaged area was not repaired quickly, which would be a significant impact. MM Traffic-3 requires PG&E to assess road conditions before construction, and repair any damages caused by the project no more than 30 days after construction activities in the area are complete. If any damages would create a substantial traffic hazard, the damages must be adequately marked and repaired within 48 hours. Traffic hazard impacts from roadway damage would be less than significant with implementation of MM Traffic-3.

Operation and Maintenance

The proposed project would not involve changes to public roadway design. Existing unpaved private roads would be graded and improved prior to construction, which would stabilize the roads and decrease existing hazards. Existing poles would be replaced within active agricultural areas where farm equipment is used. New poles would be replaced within approximately 13 to 30 feet of existing poles, and would not have a greater effect on compatible uses or road hazards than existing poles. The impact would be less than significant.

Operation and maintenance activities for the proposed project would be similar as those conducted for the existing facilities. Traffic volume, lane closures, and types of equipment would not change during operation and maintenance of the proposed project. No impact would occur.

Required APMs and MMs: MM Traffic-1, MM Traffic-2, and MM Traffic-3

e) Would the proposed project result in inadequate emergency access?	Significance Determination
	Less than significant with mitigation

Construction

The circulation system could be substantially disrupted from lane closures during construction activities, as described under Impact a) above. Temporary lane closures would occur on US 101 on two occasions, and may also occur on any roadways identified in Table 3.15-11 on multiple occasions. Unexpected lane closures or traffic jams could affect adequate emergency access in the project area, which would be a significant impact. MM Traffic-1 requires PG&E to identify all roadway segments where lane closures or detour routes could occur. MM Traffic-4 requires PG&E to notify local emergency service providers before construction, and provide them with key information identifying where lane closures and detour routes could occur, including the approximate timing of construction activities that may impact traffic and emergency access. Impacts on emergency access would be less than significant with implementation of MM Traffic-1 and MM Traffic-4.

Operation and Maintenance

Operation and maintenance activities for the proposed project would be similar to those conducted for the existing facilities. No impacts on emergency access would occur.

Required APMs and MMs: MM Traffic-1 and MM Traffic-4

f) Would the proposed project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	Significance Determination
	Less than significant with mitigation

Construction

Policies regarding public transit, bicycle, and pedestrian facilities are included in the Comprehensive Transportation Plan and the Countywide Bicycle and Pedestrian Master Plan that are administered by the Sonoma County Transportation Authority, as well as the Circulation and Transit Element of the Sonoma County General Plan. None of the goals, objectives, and polices defined in the Comprehensive Transportation Plan are applicable to the proposed project because the project would not induce population growth or have long-term effects on the circulation system.

Lane closures on US 101 would occur during nighttime hours per Caltrans requirements and would not affect Amtrak bus routes that use the highway. SMART train service would not be impacted by project activities because the project does not cross the future location of the rail line, as shown in Figure 3.15-2. No impact would occur.

The local circulation system could be significantly disrupted by construction traffic and lane closures, as described under Impact a) above. Lane closures and increased traffic volume in the Southern Segment could impact up to three SCT bus routes, as well as multiple bus stops along

the routes, by causing traffic delays or blocking access to the bus stops. The SCT bus routes and stops that could be affected are listed in Table 3.15-12 and shown on Figure 3.15-2. Schedules for the routes are listed in Table 3.15-7. Construction in the Southern Segment could affect SCT bus routes for ~~3 to 5~~4 months under a worst-case scenario. The impacts would be temporary, but could be significant if construction of the proposed project prevented public access to or impaired the operation of SCT routes. MM Traffic-1 requires PG&E to identify required procedures for reducing traffic congestion, including routing construction traffic, implementing traffic controls, and restricting lane closures during peak commute periods. MM Traffic-5 requires PG&E to notify SCT no less than 30 days prior to construction in the Southern Segment, temporarily relocate bus routes and bus stops during construction activities if necessary, and post signs at affected bus stops no less than 7 days before closures, as determined through coordination with SCT. Impacts on public transit facilities would be less than significant with implementation of MM Traffic-1 and MM Traffic-5.

Table 3.15-12 Potentially Impacted SCT Bus Routes and Stops

Route	Bus Stop (Inbound / Outbound)	Closest Intersection
20(X)	14440 / 01830	River Road & Barnes Road
60	14900 / 02000	Old Redwood Highway & Ascot Drive
	14800 / 02010	Old Redwood Highway & Deerwood Drive
	14700 / 02100	Old Redwood Highway & Faught Road
62	14440 / 01830	River Road & Barnes Road

Source: (SCT 2016)

The temporary closure of roadway lanes and pedestrian walkways (i.e., sidewalks and road shoulders) would impact pedestrian and bicycle travel. Temporary walkway closures could reduce pedestrian safety by causing pedestrians to walk along the roadway and closer to vehicle traffic. No Class I or II bikeways are located within approximately 1,000 feet of the project alignment, but all local roads are considered Class III bikeways. Lane closures, detours, and increased traffic volume could impact cyclists using the local road network. Impacts would be temporary, but would be significant if cyclists and pedestrians were not provided with alternate routes to reach their destinations. MM Traffic-1 requires PG&E to implement procedures to provide cyclists and pedestrians with safe detour routes where lane closures would occur. Impacts on bikeways and pedestrian walkways would be less than significant with implementation of MM Traffic-1.

Operation and Maintenance

Operation and maintenance activities for the proposed project would be similar to those conducted for the existing facilities. Traffic volume, lane closures, and types of equipment would not change during operation and maintenance with the proposed project. Impacts to public transit, bicycle facilities, or pedestrian facilities would not occur.

Required APMs and MMs: MM Traffic-1 and MM Traffic-5

3.15.4 Required Applicant Proposed Measures and Mitigation Measures

MM Traffic-1: Construction Traffic Management

Construction Traffic. Construction traffic shall be routed around roadways and intersections that are currently operating below LOS standards to the greatest extent possible, including the intersection at Faught Road and Old Redwood Highway. Construction traffic through the intersection at Faught Road and Old Redwood Highway shall be avoided by using Airport Boulevard and alternate local roads to access the project alignment. Construction traffic through the intersection shall be limited to an absolute minimum and shall not exceed 10 vehicle trips during weekday peak commute periods (7:00 am to 9:00 am, and 4:00 pm to 6:00 pm).

Lane Closures. Lane closures shall be limited to the minimum number necessary. Guard structures shall be installed to prevent lane closures where possible. At least one lane must remain open on all roadways. Full road closures shall not occur frequently or last for more than a few minutes at a time.

Lane closures in the Southern Segment shall not occur during weekday peak commute periods (7:00 am to 9:00 am, and 4:00 pm to 6:00 pm). In addition, lane closures shall not occur on Lavell Road and Faught Road during pickup times at San Miguel Elementary School and Mark West Elementary School (1:00 pm to 3:45 pm Monday, Tuesday, Thursday, and Friday, and 12:15 pm to 1:45 pm Wednesdays when school is in session).

Should a lane closure be unavoidable during peak commute hours or school commute hours, a traffic model shall be run to demonstrate that the lane closure and detour routes do not cause a significant impact to LOS, as defined in this traffic analysis. If modeling shows that significant impacts to LOS could occur, other measures shall be incorporated and remodeled to demonstrate less than significant impacts, or the closure shall be limited to off-peak and off-school-commute hours.

Access shall be maintained to driveways, residential communities, and parking lots. Guard structures shall be installed if overhead reconductoring activities would affect access for more than 15 minutes per day.

Detour Routes. Detour routes shall be selected in coordination with Caltrans and Sonoma County when encroachment permits are obtained. Traffic detours shall not divert existing traffic volume that would cause roadway or intersection LOS to drop below acceptable standards (LOS D for roadways and LOS F for intersections).

Safe detour routes shall be provided for pedestrians and cyclists along lane closures, and where traffic control occurs. Barriers shall be installed between the pathway and vehicle traffic, if necessary, to provide a safe clearance from traffic.

Encroachment Permits. PG&E shall obtain encroachment permits from Caltrans prior to working within the US 101 ROW and from Sonoma County prior to working within the Sonoma County ROW. PG&E shall provide the CPUC with all encroachment permits obtained from Caltrans and Sonoma County prior to work in the State or County ROW. Any modified or updated encroachment permits shall also be provided to the CPUC.

Applicable Locations: All public roadways

Performance Standards and Timing:

- **Before Construction:** N/A
- **During Construction:** (1) Construction traffic follows the designated routes that limit impacts to traffic circulation, (2) Lane closures do not occur during peak weekday commute periods or during school pick-up and drop-off periods, (3) Detour routes are adequately identified and implemented, (4) Encroachment permits from Caltrans and Sonoma County are obtained and implemented adequately, and submitted to the CPUC
- **After Construction:** N/A

MM Traffic-2: Overhead Construction Safety

Guard structures shall be installed where necessary and feasible during reconductoring activities. Alternatively, flaggers may be positioned to maintain public access. If public access cannot safely continue during overhead activities, PG&E shall clearly mark the unsafe area with signs and flagging to keep the public from accessing the area. If access to properties must be closed during overhead activities or residences must be temporarily evacuated during helicopter activities in the Southern Segment, PG&E shall coordinate the timing of construction activities with the affected property owners and residents.

Applicable Locations: All locations where the project alignment crosses public thoroughfares

Performance Standards and Timing:

- **Before Construction:** N/A
- **During Construction:** (1) Public access is maintained to the greatest extent feasible using guard structures and flaggers, (2) Areas that must be closed are flagged-off from public access, and (3) Construction activities are coordinated with any residents that may need to temporarily evacuate properties during helicopter activities in the Southern Segment
- **After Construction:** N/A

MM Traffic-3: Roadway Damage

PG&E shall conduct a Pre-Construction Road Condition Assessment along public roadways where construction would occur, heavy equipment would travel frequently, and at the entrances of all staging areas to document any existing roadway damage to the asphalt or concrete curbs. PG&E shall submit photos and coordinates of any existing roadway damage to the CPUC, Caltrans, and Sonoma County no less than 30 days prior to construction.

If roadways are damaged by construction activities, the damaged area(s) shall be documented and repaired no more than 60 days following construction activities. If the damage could cause a substantial traffic hazard, the location shall be marked appropriately and repaired within 48 hours. Any roadway damages shall be repaired to pre-project conditions and following applicable Caltrans and Sonoma County repair standards.

Applicable Locations: Public roadways where construction would occur

Performance Standards and Timing:

- **Before Construction:** Existing roadway damages are assessed and PG&E submits documentation to the CPUC, Caltrans, and Sonoma County no less than 30 days prior to construction
- **During Construction:** Any roadway damage that could cause a substantial traffic hazard is marked and repaired within 48 hours
- **After Construction:** Any roadway damage that would not cause a substantial traffic hazard is repaired no more than 60 days after construction

MM Traffic-4: Emergency Access
PG&E shall notify local emergency service providers (i.e., local fire districts, law enforcement offices, hospitals, and ambulance and paramedic services) no less than 1 week before construction activities and provide the locations of roadway segments where lane closures and detour routes may occur. The notice shall also identify the approximate timing and duration of lane closures and detour routes that may affect traffic and emergency access.
Applicable Locations: All project areas
Performance Standards and Timing: • **Before Construction:** Notify emergency service providers of lane closures and detour routes no less than 1 week before construction • **During Construction:** N/A • **After Construction:** N/A

MM Traffic-5: Public Transit
PG&E shall notify Sonoma County Transit (SCT) no less than 30 days before construction in the Southern Segment and identify roadway segments where bus routes and bus stops are located that may be affected during construction. The notice shall identify the approximate timing and duration that each bus stop may be affected. If necessary, bus stops shall be temporarily relocated or buses shall be rerouted until construction affecting the bus stop is complete, as determined through coordination with SCT. PG&E shall ensure signs are posted at affected bus stop no less than 7 days before bus stop closures. The signs shall provide information on the closest alternate bus stop for the route and the scheduled duration of relocation.
Applicable Locations: Project areas that could affect SCT bus routes
Performance Standards and Timing: • **Before Construction:** SCT is notified no less than 30 days before construction • **During Construction:** Signs are posted at affected bus stops no less than 7 days before closures • **After Construction:** N/A

3.15.5 References

AirNav. 2017. "Airport Search." January 16. Accessed January 16, 2017. http://www.airnav.com/airports/.

Airport Land Use Commission. 2016a. "Exhibit 8M Charles M Schulz - Sonoma County Airport FAR Part 77 Airspace Plan." March 14.

—. 2016b. "Sonoma County Comprehensive Airport Land Use Plan (CALUP)." March 14.

Amtrak. 2016a. *California Bus Stations.* https://www.amtrak.com/california-train-bus-stations.

—. 2016b. "San Joaquins Schedule." June 20. Accessed July 17, 2016. https://www.amtrak.com/ccurl/529/72/San-Joaquins-Schedule-062016,0.pdf.

Baymetrics Traffic Resources. 2016. "Sonoma County Average Daily Traffic (ADT) Counts." June 1-2.

Caltrans (California Department of Transportation). 2002. "Guide for the Preparation of Traffic Impact Studies." December. http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf.

—. 2014. "2014 Traffic Volumes."

County of Sonoma. 2006. "General Plan 2020 Draft Environmental Impact Report." January.

—. 2010. "2010 Sonoma County Bicycle and Pedestrian Plan." August 24.

—. 2016. "Traffic Counts." Accessed September 29, 2016. http://sonomacounty.ca.gov/TPW/Roads/Services/Traffic-Engineering/Traffic-Counts/.

ESRI. 2016. "Raster, vector, and on-line GIS Data resources."

FAA (Federal Aviation Administration). 2016. "Advisory Circular: Obstruction Marking and Lighting." October 8. https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_70_7460-1L_Change_1_Obstruction_Marking_and_Lighting_10062016.pdf.

—. 2017a. "Determination of No Hazard to Air Navigation." *Aeronautical Study No. 2017-AWP-2446-OE.* April 4.

—. 2017b. "Marking & Lighting Recommendation." *Aeronautical Study No. 2017-AWP-4537-OE.* April 16.

FHWA (Federal Highway Administration). 2013. "Signalized Intersections Informational Guide." July.

Google. 2017. "Google Maps." Accessed January 16, 2017. https://www.google.com/maps.

Google Maps. 2016. "Airport and Helipad Locations."

Leonard Charles and Associates. 2013. "Mining and Reclamation Plan for the Mark West Quarry Expansion Draft Environmental Impact Report." May.

McDonald, Karen, interview by Kelly Beggs Panorama Environmental Inc. 2017. *Phone conversation with Karen McDonald FAA Specialist, Air Traffic, Northern California* (February 6).

Napa County Watershed Information & Conservation Council. 2005. "Napa County Baseline Data Report." November 30.

Office of Planning and Research. 2014. "Updating Transportation Impacts Analysis in the CEQA Guidelines."

PG&E. 2016. "Miscellaneous materials and data." *PG&E Responses to CPUC Deficiency Reports #1, #2, and #3, and Data Need Requests #1, #2, and #3.*

SCT (Sonoma County Transit). 2015. "Park and Ride Facilities GIS Data."

—. 2016. "Interactive Route Map." Accessed 9 27, 2016. http://sctransit.com/maps-schedules/.

SkyVector. 2015a. "Charles M Schulz - Sonoma County Airport." Accessed September 13, 2016. https://skyvector.com/airport/STS/Charles-M-Schulz-Sonoma-County-Airport.

—. 2015b. "Healdsburg Municipal Airport." December 31. https://skyvector.com/airport/HES/Healdsburg-Municipal-Airport.

Sonoma County. 2016. "Sonoma County General Plan 2020." *Circulation and Transit Element.*

Sonoma County Transportation and Public Works Department. 2016. "Guidelines for Traffic Impact Studies." May.

Sonoma County Transportation Authority. 2014. "Sonoma Countywide Bicycle and Pedestrian Master Plan Update."

—. 2016. "Sonoma County Bus Routes GIS Data." January.

Sonoma Marin Area Rail Transit. 2016. "SMART Rail Phase I and Multi-Use Path GIS Data." February.

—. 2017. "Project Overview." July. http://www.sonomamarintrain.org/smart-preview.

State of California. 2015. "California Vehicle Code." Section 21200.

Town of Windsor. 1996. "General Plan 2015." March 13.

—. 2012. "Town of Windsor Daily Traffic Volumes 2012 Map." Accessed July 20, 2016. http://www.townofwindsor.com/DocumentCenter/View/14249.

—. 2016. "Town of Windsor Daily Traffic Map 2015-2016."

Transportation Research Board. 2010. "Highway Capacity Manual 2010." Exhibit 10-7.

US Census Bureau, Population Division. 2016. "Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2015." March.

USGS (United States Geologic Survey). 2012. "National Hydrography Dataset - Waterbodies and Flowlines GIS dataset."